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genus now and then becomes enriched suddenly in a new region, 7 new species being added to its list. Among the new species is a *Dacrydium*, which means more than a new angiospermous species. The ratio of increase in the number of species as the flora of the tropics becomes known is so great that a new census of the plant kingdom is called for, as the old enumerations, so often quoted in textbooks, are wide of the mark.—J. M. C.

Syncotyly and schizocotyly.—COMPTON⁸ has made a somewhat extensive investigation of dicotyledonous seedlings with a single cotyledon, and also of those with more than two cotyledons. The terminology of the title indicates his belief that the single cotyledon of a dicotyledonous seedling is the equivalent of two fused cotyledons; and that extra cotyledons represent a splitting of cotyledons.

The conclusions in reference to syncotyly are in substance as follows: syncotyly occurs in a great number of species, normally or "teratologically"; in species with albuminous seeds syncotyly usually gives rise to a symmetrical cotyledonary tube, the reason probably being "the homogeneity of the surroundings of the embryo before germination"; in species with exalbuminous seeds syncotyly is usually asymmetrical, the cotyledons uniting along one edge only, the suggested reason being "the asymmetry of its [embryo] environment, which produces accumbency and other irregularities."

The study of schizocotyly is made the basis of a discussion as to the primitive condition of cotyledony. Arguments have been advanced for both dicotyledony and polycotyledony as the primitive condition. The author's judgment inclines to dicotyledony as the primitive condition. If this historical question must be settled, it will probably have to await the discovery of the embryos of Cycadofilicales.—J. M. C.

Tyloses.—The extensive collections of the Forest Products Laboratory have enabled Miss GERRY to undertake a survey of the occurrence of tyloses.⁹ Of the 45 genera of hardwoods examined, 24 are found to contain tyloses. These proliferous growths into the vessels naturally reach their most marked development in ring-porous woods, such as oak, although in this genus black oaks rarely show tyloses, while white oaks show abundant evidences. Woods in which parenchyma surrounds the vessels show the best development of tyloses, though the proximity of medullary rays to vessels is also a factor. Contrary to previous accounts, Miss GERRY finds tyloses in the sap wood of all species in which they occur in the heart wood, and she produces photographs of hickory which illustrate the point. With respect to soft woods, *Pinus* is the only genus in which true tyloses have been found, and here they are held

⁸ COMPTON, R. H., An anatomical study of syncotyly and schizocotyly. *Ann. Botany* 27:793-821. *figs.* 41. 1913.

⁹ GERRY, E., Tyloses; their occurrence and practical significance in some American woods. *Jour. Agric. Research* 1:445-470. *pls.* 52-59. 1914.

to be of normal occurrence (contrary to RAATZ, but agreeing with the reviewer). They are found to be better developed in spring wood than in summer wood, and more numerous in sap wood than in heart wood. The effect of tyloses on penetration of wood by preservatives is also discussed.—M. A. CHRYSLER.

The Congo flora.—WILDEMAN¹⁰ has published a list of the recorded plants from the state of Congo, which adds much to our knowledge of the African flora. In addition to the vascular plants, the list includes the fungi, of which 145 species are enumerated. The new species of fungi number 16, and the following new genera are described: *Volutellopsis* and *Gilletia* (Mucedinaceae). The ferns enumerated are 35, and among them is a new species of *Dryopteris*. About 130 monocotyledons are enumerated, and 63 of these are grasses. The dicotyledons, of course, are far the most numerous, about 700 species being listed. Among them 25 new species are described, but 15 of these belong to the leguminous genus *Geissaspis*, an addition that doubles the number of its species. A student in the north temperate regions expects the Compositae to be the dominant dicotyledonous family; but in the Congo region the Leguminosae are dominant, being represented in this list by 176 species, while the Compositae reach only 62 species.—J. M. C.

Embryogeny of Ranunculaceae and Cruciferae.—In continuing his studies of the embryo of Ranunculaceae, SOUÈGES¹¹ has attacked the genus *Ranunculus*, recording every stage in the embryogeny with great detail and excellent illustrations. The same investigator¹² has also made a preliminary announcement of additional details observed in the embryogeny of crucifers.—J. M. C.

South African mosses.—South Africa is beginning to yield its quota of new mosses, as is evidenced by a publication from WAGER¹³ of the Transvaal University College, Pretoria. Ten new species are described, representing ten genera. The author promises an early publication of a list of all the mosses recorded from South Africa.—J. M. C.

New orchids of the oriental tropics.—As the vegetation of the tropics is investigated more intensively, the number of new species discovered is always surprising. In a recent contribution, SMITH¹⁴ has described 26 new species of orchids from the Malay Archipelago, and 40 new species from Papua.—J. M. C.

¹⁰ WILDEMAN, E. DE, Additions à la flore du Congo. Bull. Jard. Bot. Bruxelles 4:1-241. 1914.

¹¹ SOUÈGES, R., Recherches sur l'embryogénie des Renonculacées. Bull. Soc. Bot. France 60:506-514, 542-549. figs. 354-427. 1913.

¹² ———, Nouvelles observations sur l'embryogénie des Crucifères. Compt. Rend. 158:1356. 1914.

¹³ WAGER, HORACE A., Some new South African mosses. Trans. Roy. Soc. South Africa 4:1-6. pls. 1, 2. 1914.

¹⁴ SMITH, J. J., Bull. Jard. Bot. Buitenzorg. II. no. 13. pp. 77. 1914.